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Rowley-ragg. 7. Ancient porphyritic lava, containing numerous crystals of hornblende, from Vesuvius. 8. A specimen of tufa, or volcanic mud, also from Vesuvius.

The author infers from his analysis that phosphoric acid is a very usual component part of volcanic rocks, and is a principal source of the remarkable fertility possessed by soils derived from their disintegration.

May 2, 1844.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

1. "Ranges of the Barometer and Sympiesometer on board H.M.S. 'Alfred,' in the River Plate, between the 1st of July and the 31st of December, 1843." Communicated by Captain Beaufort, R.N., F.R.S.

This paper is a register of the results of daily observations of the heights of the barometer, sympiesometer and thermometer, the direction of the wind, and state of the weather during the above period.

2. "Remarks on the amalgamation of Silver Ores in Mexico; with an account of some new combinations of Copper, Oxygen and Chlorine." By John Christian Bowring, Esq. Communicated by S. Hunter Christie, Esq., Sec. R.S.

The process employed in Mexico for amalgamating ores containing sulphurets of silver, and which consists in adding to them a solution of bichloride of copper with chloride of sodium, is explained by Sonneschmidt, Humboldt, and Boussingault, on the supposition that a chloride of silver is formed at the same time that the sulphur combines with the copper. The author calls in question the truth of this theory, and proposes certain modifications of the process by the employment of a combination of deutoxide of copper with the bichloride, until an oxy-chloride is formed, and then adding finely precipitated copper, by which a salt of a brick-red colour is obtained, insoluble in water, and at a temperature of 200° Fahr. speedily reducing sulphuret of silver to the metallic state.

3. "Experimental evidence in support of the secretion of Carbon by animals." By Robert Rigg, Esq., F.R.S.

The author finds that the mean of the results of different experimentalists as to the quantity of carbon excreted by respiration from adults, during twenty-four hours, is 5963 grains; whereas the weight of the carbon contained in the whole of the food, both solid and liquid, received into the body during the same period, as ascertained by the analysis of each article of diet, made by the author, falls very short of that quantity; varying in different cases from 3002 to 4800 grains. The same inference is drawn from experiments made on a mouse, weighing 181 grains, confined in a wire trap for twenty-eight days; during which time it consumed food containing 544.5 grains of carbon, and gave out, in the respired air,